

AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) An ultrasonic flow sensor, ~~including comprising~~
 - at least one ultrasonic transducer (~~A, B~~) for transmitting and receiving ultrasonic signals (~~A0, B0~~), and
 - a receiver unit (4) ~~that is connected to the ultrasonic transducer (A, B) and that~~ detects a predetermined event (N) of the ultrasonic signal (~~A0, B0~~) as the a reception time (t_0),wherein the receiver unit (4) ~~is embodied in such a way that it~~ determines the a time (t_1) of a value (~~Amp_{max} , T_s~~) characteristic of the ultrasonic signal (~~A0, B0~~) ~~and determines the~~ as well as a time shift (Δt) of the time (t_1) in relation relative to the reception time (t_0) and
uses the time shift (Δt) to determine a correct time value for the reception time (t_0).
2. (currently amended) The ultrasonic flow sensor as recited in claim 1, wherein the receiver unit (4) determines a maximum amplitude (Amp_{max}) of the ultrasonic signal (~~A0, B0~~) as a characteristic value.
3. (currently amended) The ultrasonic flow sensor as recited in claim 1, wherein the receiver unit (4) determines the a chronological position (T_s) of the focal point of either the ultrasonic signal (~~A0, B0~~) or its envelope curve (6) as the characteristic value.
4. (currently amended) The ultrasonic flow sensor as recited in claim 1, wherein the receiver unit (4) includes a comparator (10) whose input is supplied with a transducer output signal (5) and a reference signal (SW), and the receiver unit (4) determines a piece of information about the time (t_1) of the characteristic value (~~Amp_{max} , T_s~~) from the output signal of the comparator (10).
5. (currently amended) The ultrasonic flow sensor as recited in claim 4,

wherein the reference signal supplied to the comparator (10) is a threshold (SW) not equal to zero and the output signal of the comparator (10) is a pulse width modulated signal (K1) from which the time (t_1) of the characteristic value (Amp_{max} , T_s) is determined.

6. (previously presented) The ultrasonic flow sensor as recited in claim 1, wherein the reception time (t_0) is corrected as a function of the time shift (Δt).

7. (currently amended) A method for detection of an ultrasonic signal (A0, B0) in an ultrasonic transducer (~~A, B~~) by means of a receiver unit (4), which detects a predetermined event (N) of the ultrasonic signal (~~A0, B0~~) as a reception time (t_0), wherein the receiver unit (4) determines the a time (t_1) of a value (Amp_{max} , T_s) characteristic of the ultrasonic signal (~~A0, B0~~) and determines the a time shift (Δt) of the time (t_1) in relation to the reception time (t_0) and uses the time shift (Δt) to determine a correct time value for the reception time (t_0).

8. (currently amended) The method as recited in claim 7, wherein the receiver unit (4) determines a maximum amplitude (Amp_{max}) of the ultrasonic signal (~~A0, B0~~) as a characteristic value.

9. (currently amended) The method as recited in claim 7, wherein the receiver unit (4) determines the a chronological position of the a focal point of the ultrasonic signal (~~A0, B0~~) or its envelope curve (6) as a characteristic value.